



PATENT
Attorney Docket No. MSU-10661

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Michael F. Thomashow *et al.*

Serial No.: 10/632,436

Group No.: 1638

Filed: 08/01/2003

Examiner: Kumar, V.

Entitled: **Transcription Factors To Improve Plant Stress Factors**

**DECLARATION OF DR. MICHAEL THOMASHOW
UNDER 37 CFR § 1.132**

Mail Stop –Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.3(a)(1)(B)(A)	
I hereby certify that this correspondence (along with any referred to as being attached or enclosed) is, on the date shown below, being deposited with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.	
Dated: <u>October 1, 2007</u>	By:  <u>Traci E. Light</u>

Examiner Kumar:

I, Michael Thomashow, Ph.D. under penalty of perjury, state that:

1. I am an inventor of the embodiments of the invention as claimed in the United States patent application captioned above.
2. I am considered an expert in the field of plant genetics, especially genetic regulation of plant responses to environmental stimuli.
3. I understand that the Examiner has questioned whether I discovered the RAV1 response to environmental stimuli before that disclosed in United States Patent Publication No. 2002/0160378 To Harper et al. filed on August 24, 2001.

4. I now provide a laboratory notebook page recorded before August 24, 2001 showing results from a microarray gene expression experiment following cold exposure. The RAV1 gene is listed (see the eighth entry from the bottom: circled) as a gene whose expression was modulated by cold exposure.
5. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dated: September 30, 2007



Dr. Michael Thomashow

Cold timecourse (FCs, nc=1)

Cluster #3 from 3x any cold FC(NC+1) cluster (CBF cluster)

PSN Affy description

1..._st	AC004450 /FEATURE=mRNA-23 /GENE=F1482.23?
1..._s_st	AB008106 /mERF-4 mRNA for ethylene responsive element binding factor 4, complete cds.
1257..._st	AF149413 /FEATURE=cds-9 /GENE=T1N24.17/ferrochelatase-1
16425_st	M37247 /12S storage protein CRA1 gene, exons 1-4.
17900_s_st	AC000106 /FEATURE=cds-6 /GENE=F7G19.6/Similar to Glycine SRC2
19577_st	AC004512 /FEATURE=cds-18 /GENE=T8F5.18 /Contains similarity to TMV resistance protein N
16820_s_st	AF051338 /hyaluronan endohydrolase/cosylase related protein (TCP4) mRNA, complete cds.
14030_st	AC005970 /FEATURE=mRNA-14 /GENE=TGP5.14 /putative protein kinase
14529_st	AC004333 /FEATURE=cds-6 /GENE=T1F15.6?
18631_st	AC002510 /FEATURE=mRNA-16 /GENE=T32G8.16 /unknown protein
15482_st	AC005489 /FEATURE=mRNA-16 /GENE=T6A23.16/AC057354.1
18597_st	AL080280 /FEATURE=cds-2 /GENE=T13K14.20 /LABEL=/PRODUCT=betaerine bridge enzyme-like protein
13115_st	AC000375 /FEATURE=cds-22 /GENE=F19K22.22/(no identity info given)
13308_s_st	A71590 /Sequence 23 from Patent WO9813478,(antifungal proteins)/unknown protein
14016_s_st	A71596 /Sequence 29 from Patent WO9813478 (antifungal proteins)/unknown protein
14640_st	AC004697 /FEATURE=mRNA-16 /GENE=T16B24.16 /putative Mlo protein
14918_st	AC005223 /FEATURE=mRNA-22 /GENE=F2Z022.23/putative alanine acetyl transferase
15613_s_st	MS0334 /homeobox protein (HAT4) mRNA, complete cds.
14554_st	AC000371 /FEATURE=cds-4 /GENE=F1707.4/no identity info
16565_st	AF155817 /zinc finger protein OBP4 mRNA, complete cds.
18885_st	AC005921 /FEATURE=mRNA-16 /GENE=F2H17.17/unknown protein
16753_st	AL031002 /FEATURE=cds-11 /GENE=F175.110 /LABEL=/PRODUCT=putative protein
17047_st	AF078825 /RING-H2 finger protein RHA36 mRNA, complete cds.
19855_st	AC007260 /FEATURE=cds-7 /GENE=T30F21.7 /Highly similar to rice zinc finger protein
19489_s_st	AC007020 /FEATURE=mRNA-11 /GENE=T3G21.11 /AP2 domain transcription factor
15041_s_st	AF033206 /FEATURE=cds /GENE=/LABEL=/PRODUCT=putative peptidyl methylesterase
15124_s_st	U56508 /osmotic stress-induced proline dehydrogenase (pro1) mRNA, complete cds. <i>p(1)in14</i>
13617_st	AC005592 /FEATURE=mRNA-8 /GENE=F14M13.10 /putative mitochondrial dicarboxylate carrier protein
18022_st	AJ011625 /equimolar promoter binding protein-like 2.
16111_L_st	AB007788 /DREB1B, complete cds.
16898_s_st	AC005682 /FEATURE=mRNA-18 /GENE=F13H10.19/tate embryogenesis abundant (LEA) M17 protein
16062_s_st	AB007789 /DREB1C, complete cds.
19538_st	D38109 /kinin phosphatase 2C.
16510_s_st	AB000490 /ABR7 mRNA for response regulator 7, complete cds.
15392_st	AC005623 /FEATURE=mRNA-13 /GENE=T2P8.13/unknown protein
20455_st	AL035394 /FEATURE=cds-22 /GENE=F8D16.220 /LABEL=/PRODUCT=putative Ap2 domain protein
20686_st	Y14424 /hypothetical protein SER2, partial.
17520_s_st	AB007787 /DREB1A, complete cds.
16575_s_st	L40954 /oleosin mRNA, complete cds.
18949_st	Z54136 /MYB-related protein (1195 bp).
19707_s_st	Z95768 /AUYY244 R2R3-MYB transcription factor.
15663_s_st	AB013886 /AVV1, complete cds.
18012_s_st	AJ002286 /inositol-1,4,5-trisphosphate 5-phosphatase.
17933_st	AC004450 /FEATURE=mRNA-17 /GENE=F1482.17/putative protein kinase.
16570_s_st	D21805 /calium-dependent protein kinase (CDPK), complete cds; <i>K-A1CPDK1</i>
14367_st	AC004473 /FEATURE=cds-8 /GENE=T13D8.8 /Contains similarity to zinc-binding protein
15202_st	AC003680 /FEATURE=mRNA-21 /GENE=F17K22.21 /Putative PCP2-like DNA-binding protein
20421_st	U81294 /germin-like protein (GLP9) mRNA, partial cds.
18***_st	AC002131 /FEATURE=cds-17 /GENE=F12F1.17/hypothetical protein

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DNA binding proteins	14
intracellular signaling	8
stress related	4 (-CBFs)